

CLAIMS:

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1. A device for receiving a video and/or audio signal comprising a plurality of different programs, comprising:  
an input which receives the video and/or audio signal;  
a user interface which receives a user input pertaining to an event;  
a detector which analyzes the video and/or audio signal of at least one program to detect the event in the program; and  
a selector for automatically, upon detection of the event, providing to a display the program containing the event.
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2. The device as claimed in claim 1, further including a PIP device which automatically displays in a PIP the program having the detected event.
- Sub C*
3. The device as claimed in claim 1, wherein the event is an audio event and the detector is a speech recognition device for detecting audio in the audio signal of the at least one program.
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4. The device as claimed in claim 1, wherein the detector is a text recognition device which scans the video information for text, and wherein the user interface includes a device which enables the user to enter as the event to be detected specific text.

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5. The device as claimed in claim 1, further including a shape detector for detecting shapes in the video information of the at least one program, and wherein the user interface includes a device which enables the user to enter, as the event to be detected, shape inputs.

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6. The device as claimed in claim 5 wherein the shape detector analyzes MPEG-4 video information.

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7. The device as claimed in claim 1, further including a memory for storing a particular length of audio and/or video information such that the program containing the event is delayed when supplied to the display upon detection of the event.

8. A method of receiving a video and/or audio signal comprising a plurality of different programs, comprising the steps of:

receiving the video and/or audio signal;

receiving a user input pertaining to an event to be detected;

analyzing the video and/or audio signal of at least one program to detect the event in the program; and

providing to a display the program containing the event upon detection of the event.

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9. The method as claimed in claim 8, wherein the step of providing provides to a PIP display the program containing the event.

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10. The method as claimed in claim 8, wherein the step of analyzing performs text recognition and scans the video signal for text, and wherein the step of receiving a user input receives text to be detected.

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11. The method as claimed in claim 8, wherein the step of analyzing performs shape recognition and scans the video signal for shapes, and wherein the step of receiving a user input receives a shape to be detected.

*SUB C*

12. The method as claimed in claim 11, wherein the user input is correlated to a particular DCT coefficient pattern and the step of receiving the video receives MPEG-4 video in the form of DCT coefficient patterns and the step of analyzing analyzes the DCT coefficient patterns of the MPEG-4 video to detect the particular DCT coefficient pattern.

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13. Computer-executable process steps to detect an event in a video and/or audio signal comprising a plurality of different programs, the computer-executable process steps being stored on a computer-readable medium and comprising:

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a detecting step to detect in at least one program an event which has been selected by a user; and  
an outputting step to automatically output to a display upon detection of the event the program containing the event.

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14. The computer-executable process steps as claimed in claim 13, wherein the detecting step includes a speech recognition step to detect audio in the audio signal of the at least one program.

15. The computer-executable process steps as claimed in claim 14, wherein the detecting step includes a text recognition step to detect text within the video signal of the at least one program.

16. The computer-executable process steps as claimed in claim 13, wherein the detecting step includes a shape detecting step for detecting shapes in the video signal of the at least one program.

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17. The computer-executable process steps as claimed in claim 16, wherein the shape detecting step includes MPEG-4 analysis step for analyzing patterns of DCT coefficients to detect a particular shape in the video stream of the at least one program

by detecting a particular DCT coefficient pattern on MPEG-4 video signal.



18. The computer-executable process steps as claimed in claim 17 wherein the analysis step includes a comparison step for comparing a user selected shape retrieved from a template of shapes defined as patterns of DCT coefficients with the patterns of DCT coefficients received in the MPEG-4 video signal.

19. Computer-executable process steps stored on a computer-readable medium, the computer-executable process steps to detect a shape in a video signal including a plurality of different programs and including an MPEG-4 video signal, the computer executable process steps comprising:

- a first receiving step to receive the video signal;
- a second receiving step to receive the MPEG-4 video signal;
- a first decoding step to decode the video signal;
- a second decoding step to decode the MPEG-4 video signal;
- a third receiving step to receive an input from a user defining a shape to be detected in at least one program of the decoded video signal;
- a detecting step for detecting the shape in the decoded MPEG-4 video signal; and
- a providing step to automatically provide to a display the program having the detected shape.

~~20. The computer-executable process steps as claimed in claim 19, further including a delay step to delay the program having the detected shape so that display of the program captures the detected shape.~~

21. Computer-executable process steps stored on a computer readable medium, the computer-executable process steps to detect an audio event in an audio signal including audio information for at least one video program, the computer-executable process steps comprising:

a first receiving step to receive a video signal comprising the plurality of video programs;

a second receiving step to receive the audio signal;

a decoding step to decode the video and audio signals;

a third receiving step to receive an input from a user defining an audio event to be detected in the decoded audio signal;

a detecting step to detect, using speech recognition steps, the user defined audio event; and

a providing step to provide to a display a program having the detected event so that the display of the program captures the event.

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22. Computer-executable process steps stored on a computer readable medium, the computer-executable process steps to detect text within a video signal including a plurality of programs, the computer-executable process steps, comprising:

a first receiving step to receive the video signal;

a decoding step to decode the video signal;

a second receiving step to receive an input from a user defining text to be detected in at least one program of the video signal;

a detecting step to detect, using text recognition steps, the user defined text in the at least one program of the video signal; and

a providing step to provide to a display the program having the detected text.

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23. The computer-executable process steps as claimed in claim 22, further including a delay step to delay the program having the detected text so that display of the program captures the text.

24. An apparatus for detecting an event in a video signal comprising a plurality of programs, the apparatus comprising:

a memory which stores process steps; and

a processor which executes the process steps stored in the memory so as (i) to detect, in at least one program, an event

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which as been selected by a user, and (ii) to output automatically to a display upon detection of the event the program containing the event.

25. An apparatus for detecting a shape in a video signal comprising a plurality of programs, the apparatus comprising:

a memory which stores process steps; and  
a processor which executes the process steps stored in the memory so as (i) to detect, in an MPEG-4 video signal, a shape which as been selected by a user, and (ii) to output automatically to a display upon detection of the shape the program containing the shape.

26. An apparatus for detecting an audio event in an audio signal which includes audio information for at least one video program, the apparatus comprising:

a memory which stores process steps; and  
a processor which executes the process steps stored in the memory so as (i) to detect in the audio information of at least one video program, using speech recognition, an audio event which has been selected by a user, and (ii) to output automatically to a display, upon detection of the audio event, the video program containing the audio event.

27. An apparatus for detecting text in a video signal comprising a plurality of programs, the apparatus comprising:

- a memory which stores process steps; and
- a processor which executes the process steps stored in the memory so as (i) to detect, in at least one program, text which has been selected by a user, and (ii) to output automatically to a display upon detection of the text the program containing the text.

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